**Assignment**

Consider the dataset at the link: <https://www.kaggle.com/datasets/rabieelkharoua/predict-restaurant-customer-satisfaction-dataset>

Instructions:

1. For answering the questions, you require to show the Python code which helped you answer that question
2. For details about the columns, please refer the above link
3. The answers should be in Colab / Jupyter notebook only
4. Create charts wherever you find necessary
5. The best models found need to be mentioned

Do the following Exploratory Data Analysis:

1. Answer the following questions:
   1. Is Age correlated significantly with Average Spend?
   2. Calculate the mean average spending for both the genders separately.
   3. Calculate the mean of Age for all the categories of Time of Visit separately.
   4. Among the people rarely visiting, what is the most preferred cuisine by percentage?
   5. Among the people weekly visiting, what is the most frequent meal type?
   6. Among the business type of dining occasion, what is most frequent preferred cuisine?
   7. With the group size bigger than 5, what is percentage of business type of dining occasion?
   8. Among the customers preferring Chinese cuisine, how much percentage are satisfied?
   9. What is average rating given to the food by the customers preferring Chinese cuisine?
   10. For the customers preferring Chinese cuisine, how much is the average waiting time?
2. Do the following considering encoded HighSatisfaction as response(dependent) variable:
   1. Do the hot encoding / dummying of all the non-numeric variables
   2. Considering the Grid Search CV / Randomized Search CV with parameters of your choice, test the accuracy on following models:
      1. SVC (kernel=’linear’)
      2. SVC (kernel=’rbf’)
      3. Decision Tree Classifier
      4. Random Forest Classifier
   3. Mention for which model you are getting lowest log loss score